Amendments to the Claims:

Claims 1-3 (Cancelled).

4. (New) A method of manufacturing a stator core to be used in a motor excited by a high-frequency current and driven in a magnetic field having a magnetic induction of no greater than 1.0T, comprising:

fabricating a stator core of non-oriented electrical steel sheets;

heating the stator core to a temperature above a Curie point of the stator core; and

cooling the heated stator core while applying a magnetic field thereto at least through a temperature range from a temperature above the Curie point to a temperature of 300°C, the magnetic field having a direction the same as a direction of excitation of a stator of the motor during operation of the motor.

5. (New) The method of claim 4, wherein the heated stator core has a grain size of at least 100 μm during said applying of the magnetic field.

6. (New) The method of claim 4, wherein said fabricating of the stator core comprises punching a plurality of ring-shaped layers out of non-oriented electrical steel sheets containing Si, and laminating the ring-shaped layers to form the stator core.

7. (New) The method of claim 6, wherein said heating comprises heating the stator core to a temperature in a range of 750°C to 850°C so as to reduce any strains incurred during said punching.

8. (New) The method of claim 4, wherein said applying of the magnetic field is stopped when the stator core reaches 300°C during said cooling.

9. (New) The method of claim 4, wherein said heating of the stator core comprises

heating the stator core to a temperature sufficient to increase a size of the crystal grains in the stator core.

10. (New) The method of claim 4, wherein said applying of the magnetic field comprises applying a magnetic field having an intensity in a range of 800 A/m to 12000 A/m.

11. (New) The method of claim 4, wherein the stator core is to be used in a motor excited by a current in a range of 400Hz to 600Hz.

12. (New) A method comprising:

manufacturing a stator core for the motor, said manufacturing including:

fabricating a stator core of non-oriented electrical steel sheets;

heating the stator core to a temperature above a Curie point of the stator core; and

cooling the heated stator core while applying a magnetic field thereto at least through a temperature range from a temperature above the Curie point to a temperature of 300°C, the magnetic field having a direction the same as a direction of excitation of a stator of the motor during operation of the motor;

assembling the motor including the stator core; andexciting the motor using a high-frequency current so as to drive the motor in a magnetic field having a magnetic induction of no greater than 1.0T.

13. (New) The method of claim 12, wherein the heated stator core has a grain size of at least 100 μm during said applying of the magnetic field.

14. (New) The method of claim 12, wherein said fabricating of the stator core comprises punching a plurality of ring-shaped layers out of non-oriented electrical steel sheets containing Si, and laminating the ring-shaped layers to form the stator core.

15. (New) The method of claim 14, wherein said heating comprises heating the stator core to a temperature in a range of 750°C to 850°C so as to reduce any strains incurred during said punching.

16. (New) The method of claim 12, wherein said applying of the magnetic field is stopped when the stator core reaches 300°C during said cooling.

17. (New) The method of claim 12, wherein said heating of the stator core comprises heating the stator core to a temperature sufficient to increase a size of the crystal grains in the stator core.

18. (New) The method of claim 12, wherein said applying of the magnetic field comprises applying a magnetic field having an intensity in a range of 800 A/m to 12000 A/m.

19. (New) The method of claim 12, wherein said exciting of the motor comprises applying a current in a range of 400Hz to 600Hz to the motor.